DOCUMENTATION ISG-kernel

Manual
Clamp position offset

Short Description:
CLMP

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Preface

Legal information

This documentation was produced with utmost care. The products and scope of functions described are under continuous development. We reserve the right to revise and amend the documentation at any time and without prior notice.

No claims may be made for products which have already been delivered if such claims are based on the specifications, figures and descriptions contained in this documentation.

Personnel qualifications

This description is solely intended for skilled technicians who were trained in control, automation and drive systems and who are familiar with the applicable standards, the relevant documentation and the machining application.

It is absolutely vital to refer to this documentation, the instructions below and the explanations to carry out installation and commissioning work. Skilled technicians are under the obligation to use the documentation duly published for every installation and commissioning operation.

Skilled technicians must ensure that the application or use of the products described fulfil all safety requirements including all applicable laws, regulations, provisions and standards.

Further information

Links below (DE)

https://www.isg-stuttgart.de/produkte/softwareprodukte/isg-kernel/dokumente-und-downloads

or (EN)

https://www.isg-stuttgart.de/en/products/softwareproducts/isg-kernel/documents-and-downloads

contains further information on messages generated in the NC kernel, online help, PLC libraries, tools, etc. in addition to the current documentation.

Disclaimer

It is forbidden to make any changes to the software configuration which are not contained in the options described in this documentation.

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General and safety instructions

Icons used and their meanings

This documentation uses the following icons next to the safety instruction and the associated text. Please read the (safety) instructions carefully and comply with them at all times.

Icons in explanatory text

➢ Indicates an action.

⇨ Indicates an action statement.

⚠ DANGER

Acute danger to life!

If you fail to comply with the safety instruction next to this icon, there is immediate danger to human life and health.

⚠ CAUTION

Personal injury and damage to machines!

If you fail to comply with the safety instruction next to this icon, it may result in personal injury or damage to machines.

Attention

Restriction or error

This icon describes restrictions or warns of errors.

Notice

Tips and other notes

This icon indicates information to assist in general understanding or to provide additional information.

Example

General example

Example that clarifies the text.

Programing Example

NC programming example

Programming example (complete NC program or program sequence) of the described function or NC command.

Release Note

Specific version information

Optional or restricted function. The availability of this function depends on the configuration and the scope of the version.

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Overview of clamp position offset parameter

The clamp position offset data is sorted into a 4-column table.

- Column 1 contains the unambiguous identifier of the clamp position offset parameter called the “ID” which consists of the prefix “P-CLMP” and a unique 5-digit number,
  e.g. P-CLMP-00001.
- Column 2 represents the data structure which defines the parameter,
  e.g. pzv_grp[i].achse[j].
  The structure is a categorisation aid and is described in the following section.
- Column 3 contains the “parameter” with its exact description,
  e.g. offset.
  The important thing is that “structure”+”parameter” always belong together and must therefore be configured in exactly the same way in the clamp position offset parameter list,
  e.g. pzv_grp[i].achse[j].versatz
- Column 4 contains the “functionality” in a summarised term/short description,
  e.g. axis-specific clamp position offset.

ID	Structure	Parameter	Functionality/short description
P-CLMP-00001 [▶ 8]	pzv_grp[i].achse[j].	offset	Axis-specific clamp position offset

1 General description

1.1 Links to other documents

For the sake of clarity, links to other documents and parameters are abbreviated, e.g. [PROG] for the Programming Manual or P-AXIS-00001 for an axis parameter.

For technical reasons these links only function in the Online Help (HTML5, CHM) but not in pdf files since pdfs do not support cross-linking.

1.2 Classification of clamp position offset data

Clamp position offsets can be defined in different groups in the clamp position offset data list. The required clamp position offset group can be loaded by selecting the clamp position offset index before program start-up. Each clamp position offset group contains the clamp position offset data for all path axes and is generally referred to below as **clamp position offset**.

The clamp position offset data is included in the coordinates of all path axes at program start-up. The axis index corresponds to the channel-internal axis index. The initial axis configuration of the NC channel is defines in the channel parameters
[CHAN// Section: Configuration of path axes].

Value ranges of parameters may also be defined by stating a limit resulting from data width, e.g. MAX(UNS32), etc.

1.3 Syntax and interpretation of ASCII list file

An interpreter copies the entries in the ASCII list file into identical internal structures which are then checked for plausibility. To ensure reliable controller start-up every time, any defective entries found by the plausibility check are replaced by default values.

Unknown entries are not taken over. These irregularities are displayed by warning messages. We advise you to investigate the cause for these warning messages and remove defective entries from the ASCII list file.

Notice

The following agreement applies to BOOLEAN data:

Value	Meaning
0	Definition of FALSE
1	Definition of TRUE

1.4 Comments in the ASCII list file

Comments can be in an entire line or can be added at the end of a line.

With a comment spanning an entire line, the comment character "'#" must be placed at the start of the line and followed by a blank.

If a comment is to be inserted at the end of a line, only a blank is required before the comment. However, if a string was defined in the line, the comment must be preceded by the comment character "(".

Blank lines are also possible.

Example

Comments in the ASCII list file

```
# ****************************************************************************
# Data
# ****************************************************************************
#
# Listing

dummy[1] 1 Comment
dummy[2] 1 # Comment
dummy[3] 1 ( Comment
dummy[4] 1 /* Comment
...
...
beispiel[0].bezeichnung STRING_2 (Comment: comment brackets required here!)
```

2 Description of elements

2.1 Clamp position offset group (pzv_grp[i].*)

Each clamp position offset group "pzv_grp[i]" contains the clamp position offsets for all path axes. Before program start-up, a clamp position offset group can be selected from the operating menu.

Structure name	Index
pzv_grp[i]	i = 0 ... 149 (maximum number of clamp position offset groups: 150, application-specific)

2.1.1 Axis assignment of data in the clamp position offset group (pzv_grp[i].achse[j.*])

This structure element assigns clamp position offsets to path axes. The axis index corresponds to the channel-internal axis index.

Structure name	Index
achse[j]	j = 0 ... 31 (maximum number of axes per channel: 32, application-specific)

2.1.1.1 Axis-specific clamp position offset (P-CLMP-00001)

P-CLMP-00001	Axis-specific clamp position offset
Description	An offset parameter is reserved for each axis in each clamp position offset group.
Parameter	pzv_grp[i].achse[j].versatz
Data type	SGN32
Data range	MIN(SGN32) ≤ versatz ≤ MAX(SGN32)
Dimension	0.1µm or 0.0001°
Default value	0
Remarks	

3 Example of assigning clamp position offset data ("pzv_d.lis")

Configuration with 3 axes:

```
# ********************************************************************************
# Clamp position offset data
# ********************************************************************************
# Important note : Behind the comment character ´#´
# a blank (space) must be added
# CAUTION: Clamp position offset is expected in the unit 0.1 ìm.
# ********************************************************************************
#
# ================================================================================
# 1st clamp position offset group
# ================================================================================
pzv_grp[0].achse[0].versatz      100000     # Offset by 10 mm
pzv_grp[0].achse[1].versatz 200000 # Offset by 20 mm
pzv_grp[0].achse[2].versatz 300000 # Offset by 30 mm
#
# ================================================================================
# 2nd clamp position offset group
# ================================================================================
pzv_grp[1].achse[0].versatz      -100000      # Offset by -10 mm
pzv_grp[1].achse[1].versatz 200000 # Offset by 20 mm
pzv_grp[1].achse[2].versatz 400000 # Offset by 40 mm
#
# ================================================================================
# 3rd clamp position offset group
# ================================================================================
pzv_grp[2].achse[0].versatz 40000 # Offset by 4 mm
pzv_grp[2].achse[1].versatz 50000 # Offset by 5 mm
pzv_grp[2].achse[2].versatz 60000 # Offset by 6 mm
```

Keyword index

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4 Appendix

4.1 References

[CHAN] Documentation of channel parameters

4.2 Suggestions, corrections and the latest documentation

Did you find any errors? Do you have any suggestions or constructive criticism? Please contact us at documentation@isg-stuttgart.de ..... The latest documentation is posted on our website (DE/ENG):

DE EN

Deutsch: https://www.isg-stuttgart.de/de/isg-kernel/kernel-downloads.html

English: https://www.isg-stuttgart.de/en/isg-kernel/kernel-downloads.html

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